

# Traditional Vs. Modern Teaching-Learning in Nigeria: A Theoretical Comparative Analysis of the Digital Divide Teachers' Face in the Classrooms

Dr. Abraham Oriji (Ph.D.; DLS), Uduak Idoghor (Ph.D, LLB.)

*Department of Curriculum Studies and Educational Technology Faculty of Education, University of Port Harcourt, Nigeria.*

*Department of Curriculum Studies and Educational Technology Faculty of Education, University of Port Harcourt, Nigeria.*

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## ABSTRACT

The advent of technological devices of the 21<sup>st</sup> Century have impacted heavily on every aspect of humanity, especially on the educational sector, as more and more institutions and business organizations are currently offering online training and/or courses hosted on the Internet websites. There is no gainsaying that the vast number of conventional teachers are still practicing what they already know how to do, and are reluctant to put into practice the modern system of education (i.e., Distance learning), which uses different tools that goes with different names, such as - Online learning, E-learning, Mobile learning, Virtual classroom, Distributed learning, etcetera. Despite the merits and the demerits of the two modes of instruction, for some individuals, they prefer online training more appropriately; while some prefer the traditional classroom delivery method. This study attempts to identify the differences in traditional and electronic learning pedagogies in recent times by adopting the narrative literature review technique through a comprehensive online database elicitation. The authors further looked at the two sides of the coin by discussing about the digital divide, which many teachers face in the classroom due to technological advancements, and thoroughly differentiates the benefits and the pitfalls of the two modes of instructional strategies for individuals, policy makers that intend to invest on either of the methods of instruction for them to take better decisions. Again, the current study explored the effectiveness of teaching methodologies by decoding and understanding the merits and

demerits, which will help educational institutions to create strategies for more efficient delivery of educational content to the beneficiaries of this process them (Gherhes, Stoian, Farcasiu & Stanici, 2021). The authors did not fail to make recommendations for appropriate use of both instructional strategies for the benefits of the educational system.

**Keywords:** Traditional learning; Modern learning; Synchronous & Asynchronous communication, E-learning & Face-to-face learning.

## I. INTRODUCTION/LITERATURE REVIEW

The traditional means of learning (the lecture or Face-to-face method) has been with us since Adam, and has been fulfilling the objective of imparting knowledge to our children. Similarly, Siemens, Gasević & Dawson (2015a) have noticed that the world is increasingly becoming digital and the education sector is not an exception to this transition, and the electronic learning, one of the instructional strategies is being deployed in education the world over (Ansong, Boateng, Boateng & Anderson, 2018; and Beer & Slack, 2015) and has become a novel means of learning trend in current years (Naveed, Muhammad, Sanober, Qureshi & Shah, 2017a).

Whether you call it modern or traditional methods of learning, the two modes are concerned with the development of learners'/students' learning capabilities (acquisition of knowledge). Ullah & Iqbal (2020) pointed out that the teaching method acts as a fundamental catalyst of

engineering the students' learning at all levels. They are a set of strategies people utilize in "acquiring new knowledge, or modifying existing knowledge, behaviors, skills, values, or preferences" (Alhumaid, 2019). As Alhumaid (2019) further puts it, Presently, there is a new innovation in the field of education. Researchers have given much attention to the dichotomy between electronic learning and the conventional methods of instruction, concerning the merits and the merits (Nycz, 2007; Oye et al, 2012), especially during and after the COVID-19 pandemic periods.

Many years ago, teachers normally stood in front of the blackboard with white chalk in his hands and with students sitting on the desk right in front of them holding papers and pencils/Biros listening and taking notes. This situation has been with us from onset and it is still with us till today in many classrooms in Nigeria and other parts of the world.

But the 21<sup>st</sup> Century has ushered in some technological devices that are changing the nature of the classroom. Presently, students sit in front of their laptops, tablets, or countless of other devices, and completing interactive tasks online. Their blackboard has been replaced with an interactive whiteboard that serves as a blackboard, projector, and computer, all in one (Tustin, 2015). As Tustin (2015) further puts it, it is the differences between the traditional classroom and the high-tech, modern classroom that represent the digital divide in Africa, especially in Nigeria.

The present day learning is powered by the Internet, which distance learning which accomplishes its work through e-learning or online learning has become the in-thing.

#### Definition of Key concepts

**Traditional Learning:** The education system largely comprises classroom ambience with face to face mode of instruction, strict adherence to schedule, tests, final exams and under complete guidance and motivation of professors (Jamal & Aldaifallah, 2020). In concord, Gherhes et al (2021) conceptualized it as a lecture method in which the teacher comes face-to-face with the students in the classroom. This method of teaching is more teacher-centered, where the teacher lectures directly to the students, while they passively listen to the teacher. In face-to-face learning, students are evaluated exclusively by the teacher, who represents the main source of information, and the quality of learning is strongly dependent on the teacher alone.

**Modern Learning:** This refers to the 21<sup>st</sup> Century method of instruction. Presently, several broad terms or terminologies are used to describe the modern learning ways and approaches (Anohina, 2005). These learning processes have appeared together with the rapid growth of information and communication technologies (Anohina, 2005). The most widespread or the numerous terms used to refer to modern teaching methods are, according to Jolliffe (2001), Anohina (2005), Ryan, et al (2000), Picciano (2001), Porter (1997), Horton (1999), and Kearsley (2000) include (1). E-learning (2). Distance learning (3). Computer-based learning (4). Internet-based learning (5). Online learning. (6). Resource-based learning (7). Technology-based learning (8) Web-based learning (9). Open learning (10). Flexible learning (11). Individualized learning (12). Computer-aided learning (13). Project-based learning (14). Problem-based learning (15). Student-centered learning (16). Self-organized learning (17). Distance education (18). Distance teaching (19). Distributed learning (20). Asynchronous learning (21). Telelearning (22). Direct learning (23). Assisted learning (24). Online education (25). Web-based training (26). Web-based instruction (27). Web-based education (28) Internet-based education (29). Internet-based learning (30). Internet-based training (31). Technology-based learning (32). Computer-managed learning, ubiquitous learning, computer-enriched learning, and (33). Virtual learning, among others. Modern learning uses any of the above terms to facilitate teaching and learning processes.

**Digital Divide:** This refers to the inequality in access to technology that exists between communities due to regional and demographic differences, particularly socio-economic groups. The concept of digital divide seeks to examine the level of ICTs access disparity. Digital Divide is the gap between those who have access to digital technologies and those who do not; or the gap between those who use digital technologies and those who do not understand in binary terms distinguishing the "haves" from the "have nots" (Hargittai, 2003). While some students are considered digital natives, having grown up immersed in technology, other students, for a variety of reasons, have not reached this level of technological skill.

**Face-to-face Learning:** Refers to "an instructional method where course content and learning material are taught physically, in person,

to a group of students”, and is considered to be the most traditional type of learning instruction.

**Synchronous Communication:** Describes the communication mode method in which participants may or may not be online at the same time in which interaction between the sender and the receiver takes place simultaneously, such as face-to-face, telephone, live video conferencing, teleconferencing, Zoom, online chat rooms, discussion forums, instant messaging and bulletin boards, Webcams Dispersed classroom, etc. (Orij, 2021, Mangal and Mangal, 2009, and Vankataiah, 2007). Synchronous communication provides avenues for live interactive sessions between individuals that may be teachers versus students/learners, or learners versus learners

**Asynchronous Communication:** Vankaiah (2007) refers to it as “a communication mode in which the messages that are recorded and stored so that individual participants may interact with them at any time that is convenient. Mangal and Mangal (2019) described it a situation where the course information or learning experiences are passed on to the learner through email, discussion groups, web pages, weblog or blogs, wikis or through the recorded CD-ROMs, DVDs, memory cards, and any other storage media. The above denotes that there is no instantaneous or simultaneous interaction between participants (students and teachers) in the communication process.

**E-learning:** An abbreviation for electronic learning, which refers to a part of a broader concept, namely distance education (Urduan & Weggen, n.d). Many technical terms are used to describe e-learning, including: technology-assisted learning, mobile learning, ubiquitous learning, computer-assisted learning, etc. Defining a term or new terminologies in any profession is usually very difficult. For instance, Arkorful and Abaidoo (2014) affirmed that there is not any common definition of the term electronic learning. In the same manner, Al-Azawei, Parslow, P., & Lundqvist (2016) avowed that electronic learning does not have an acceptable definition among all researchers. However, several scholars have attempted defining e-learning. Oye & Iahad (2012).described it as the use of computers, Internet, Smartphones, and any other technological devices to impact knowledge or experiences to students/learners, and further point out that e-learning is more student-centered. E-learning has also been referred to as the integration and utilization of information technology tools such as computers, software and internet in the process of

teaching and learning in education (Aboderin, 2015; Hubackova, 2015; Kayange, 2019; Mwakyusa & Mwalyagile, 2016; Turban et al., 2015). E-learning, as stated by Lawn et al (2017, refers to an information technology integrated learning style, where both asynchronous and synchronous learning are achieved using various kinds of information and technology tools. Okeke-James, Anyanwu, & Eli-Chukwu, Igbokwe (2020) have also defined electronic learning as a “learning approach that is centered on the use of electronic technologies to teach, learn, communicate, share ideas, access information and regulate educational activities from instructors to learners in an online environment”. Kyari, Adiuku-Brown, Abechi & Adekun (2018) define it as the “use of the Internet, intranets/extranets, audio and videotape, satellite broadcast, and interactive television, not only for content delivery but also for interaction among participants”. Gama, Chipeta & Chawinga (2022) see e-learning as the use of electronic technologies and the Internet in delivering education content online or offline and supporting collaboration in different geographical areas.

Ee-learning has been operationally defined as a current learning approach, which enables learners, teachers or instructors to learn and teach via an information technology supported mobile platform (Yu, n.d.). As Gama et al (2022) concluded, defining e-learning as a concept is not a straightforward thing and the broader distinct definitions above highlight the difficulty in finding a commonly accepted definition.

**Active learning:** Active learning concerns in-depth understanding of a course through induction of practice, which involves several techniques that support and promote active learning as proposed by Bonwell & Eison (1991). The underlisted techniques promote active learning:-

- The use of visual media during the lectures (video, multimedia, slides).
- The encouragement of students to take notes during lectures.
- The use of computers during teaching.
- The encouragement of students to solve problems during the case study.
- The use of simulations, role playing and various graphics.
- The use of collaborative learning.

**Advantages of Modern (e-learning) Mode of Instruction**

The modern mode of education, which is based on electronic learning has come to stay with us. As Sucuoglu and Andrew (2022) noted, the

quest for a better education and knowledge acquisition has triggered the introduction, acceptance and incorporation of electronic learning into Nigeria and other countries' education sectors. Since the introduction of this mode of instruction in Nigeria, which dates back to the 1980s (Sucuoglu and Andrew, 2022), it has been applauded for its numerous advantages, which was then adopted to fix the dilapidated Nigerian educational structure (Sucuoglu & Andrew, 2022). Therefore, the authors, via the review of relevant literature on the topic, have outlined some of the benefits as discussed below.

1. Communication in e-learning is often very impersonal (De, 2018).
2. Some studies have shown students' preferences for e-learning, especially the introverts, who may feel shy and lack confidence, or those who have learning challenges, or those who find public speaking a burden, as well as of those who are reluctant to speak in class (Stern, 2004).
3. E-learning offers alternatives to live query resolution like online forums, emails, and chat rooms, and using these alternatives can be helpful for individuals to get their queries answered (De, 2018).
4. Modern education is interactive and allows for two-way communication.
5. E-learning contributes to the sustainability of the educational process. The E-learning platform facilitated the transition to online teaching during the COVID-19 pandemic and was used to continue the educational process for all undergraduate, graduate, and post-graduate programs when most of the schools worldwide were shut down, but were sustained through the electronic education system.
6. It also meets emergency remote learning situations, also taking reference from the COVID-19 pandemic period.
7. The development of this field of study meets the present reality of the health crisis globally, especially in the education sector. Within the COVID-19 pandemic crisis context, e-learning has more of a role in protecting the health of those engaged in the online educational process. This assertion has been affirmed by some studies (Murphy, 2020; Shim, 2020; Aguilera-Hermida, 2020; Alqabbani, 2020; Mohammed, Khidhir, Nazeer & Vijayan, 2020). They refer to the current situation in the field of education as "emergency remote teaching".
8. The modern education method uses different search engines, like Google, Bing, etc. (De, 2018).
9. It is more suitable for grownups, who are continuing their education while they're working in their regular jobs. Gama Chipeta & Chawinga (2022) affirmed this when they said that modern learning accommodates work and learning at the same time.
10. Electronic learning encourages collaboration between or among institutions (Huang, 2020).
11. Nycz and Cohen (2017) affirmed that e-learning has its advantages, such as flexibility. Individuals can take courses from the comfort of their offices or homes. The flexibility of working time, as well as the variety of documentation sources makes electronic learning much better than the traditional system of education (Gama et al, 2022 and Sucuoglu & Andrew, 2022).
12. Classroom learning helps students and teachers to know each other in a better manner.
13. The following positive aspects of online education were identified among teachers: the ease of teaching online, the flexibility of the work schedule, the adaptability to broad learning styles, the variety of tools available at hand, and the ease in monitoring and documenting teaching activities (Ionescu, Paschia, Nicolau, Stanescu, Stancescu, Coman & Uzla, 2020).
14. Research has shown that e-learning experience is useful and easy to use, the subjects indicating that students understood the information and that their navigation effort was minimal (Almarabeh, 2014).
15. Electronic learning is described as an interchangeable and interim option between face-to-face and e-learning caused by natural disasters or situations that require distancing (Hodges, Moore, Lockee, Trust & Bond, 2015).
16. It is meant to exclusively provide a temporary solution that does not fully benefit from institutional support and in which students have no choice. E-learning, instead, is more appropriate, due to its particular features; it uses the dedicated platforms of universities, the professors are trained, the assessments follow a certain pattern, and the pedagogical activities adapt to this form of education (Hodges, Moore, Lockee, Trust & Bond, 2015).
17. In this information age, innovation of knowledge is leading to the acceptance of e-learning, which is breaking the limitations of

- time and space (Yu, N.D.). The teacher and the learner can be separated by time and place. A learner can choose time, place, pace and amount of learning that suits him. Most learners consider e-learning considerably more convenient and helpful than traditional learning (Tan, 2015).
18. It allows communication between students and teachers in an asynchronous way. Another preferred function is the chat feature, as this allows real-time exchange of messages and content between users (Cacheiro-Gonzalez, 2019).
  19. Modern education via the use of numerous social media sites, which makes it possible to create a community for students, reduces the impact or the degree of isolation among participants enrolled in online programmes.
  20. E-learning enables students' evaluations to be carried out using different tools (Gherhes, Simon & Para, 2021) as opposed to the conventional method of learning.
  21. In e-learning, information could be accessed from various documents uploaded on the platforms or websites (Gherhes, Simon & Para, 2021).
  22. Modern learning reduced overall cost and time (Igbokwe et al. (2020); Almaiah & Mulhem (2020); Barteit, Jahn, Banda, Barnighausen, Bowa, Chileshe, & Neuhann (2019); Kayange (2019). It reduces transportation and accommodation costs. In this case, there is no need to travel to the school/institution, but requires only an Internet connection and bandwidth (Gama et al, 2022).
  23. It requires tuition, and accommodates multiple enrolments, even without classrooms and other facilities (Gama et al, 2022).
  24. Reliable learning skills have been associated as part of modern instructional mode. The modern approach to instruction has given teachers the opportunity to possess some attributes and unique features (skills), which involves the internet and multimedia to effectively pass the information they want to give to numerous students; it has also given the students the opening to acquire the needed skills to participate and effectively obtain the required knowledge/experiences without much stress (Sucuogluand & Andrew, 2022).
  25. Electronic learning connects users beyond the boundaries of their location (Sucuoglu & Andrew, 2022), and is easily available at the World Wide Web (Gama et al, 2022).
  26. Learners can acquire a better understanding of the concepts being taught, as the materials that are provided can be re-accessed along with knowledge from instructors (Sucuoglu & Andrew, 2022).
  27. E-learning can provide motivational and lifelong learning and education through low-cost technology (Naresh & Reddy, 2015; and Sofiadin, 2014).
  28. Modern learning accommodates work and learning at the same time and allows access to numerous, latest, and updated information through published e-books and journals (Gama et al, 2022).
  29. Modern learning through e-learning provides increased quality assurance through peer-reviewing of teaching content (Gama et al, 2022).
  30. Modern learning provides good access to quality education across physical borders (Barteit et al. (2019); Alariqi et al (2019); Ansong et al. (2018); Khaniran (2018); Lashayo et al. (2018).
  31. Through modern learning, e-learning can deliver educational goals to areas wrecked by wars and during school closure, and ensures continuous learning as noticed during the coronavirus pandemic period (Khaniran, 2018).
  32. Teachers act as mentors, and guide students in their career possibilities, and interactions with good teachers help motivate students to achieve higher marks.
  33. As a product of technology, Viorica-Torii & Carmen (2013) revealed that modern learning facilitates individualized learning, which makes students more capable to cope with problems independently. E-learning encourages learners to take responsibility for their learning and build self-knowledge and self-confidence. Hence, the teachers are no longer transmitters of information, but engineers or designers of learning environments (Hairon & Chai, 2017). Invariably, teachers' main task in electronic learning is to re-arrange the elements of effective learning through placing themselves in the middle between students and curricula.
  34. Implementation of e-learning system provides higher education to a large population and also reduces its high demand and engages students and faculty staff irrespective of distance amidst difficult times (Gama et al, 2022).
  35. Modern learning makes free online teaching and learning platforms available to the public and provides free electronic textbooks and teachers' guides to all (Xu, 2020).

36. E-Learning enables the use of Zoom (which comprises both audio and video conference facilities) suitable for virtual meetings and discussions. In addition, the instructors share files, use whiteboards, audio and video conferencing to demonstrate their course materials.
37. E-learning also enables similar education tools, such as blackboard teaching (Learning Management System (LMS) that provides learning resources, discussion boards, course room sessions, technically generated quizzes, e-evaluation and instant e-results. Also used is a telegram (a mobile-based application or e-tool for sending and receiving messages composed of several features like sharing information with groups), and (Xu, 2020).

#### Pitfalls' of Modern Mode of Instruction (E-learning)

E-learning, one of the instructional techniques of modern learning, has been immensely accepted and also achieved great success in education (Yu, n.d.). Some of these challenges are classified into different categories, such as - technological, individual, cultural, course, management, and implementation challenges (Gama et al, 2022). Having enumerated some of the merits of e-learning does not mean that the instructional mode has no shortcomings. However, some of these drawbacks are as discussed hereunder.

1. One of the biggest disadvantages of the online education system for the teachers is the need to adapt to the courses to suit the new teaching conditions.
2. Added to the above is the difficulty of the student assessment system and students' low efficiency in the accumulation of new knowledge.
3. Bijeesh (2017) opined that the chances of getting distracted and losing track of deadlines for home assignments is high, especially when the teachers and students are not close to constant interactions and reminders about pending assignments.
4. Procrastination among students is usually high in online learning, particularly when students lack self-discipline and motivation, and no teacher or fellow students to constantly remind learners' about pending assignments (Brown, 2017).
5. A study highlights that digital skills needed during the pandemic cannot be acquired quickly as needed. Thus, it can be said that the process to adapt to e-learning during emergency situations like the COVID-19 has been a rather tortuous one on both the teachers and the students (Deshmukh, 2020).
6. There is a constant internet disconnection or breakdown (Igbokwe et al, 2020); Eltahir, 2019, & Alariqi et al. 2019); there is very poor bandwidth; the average connection speed is also very poor/low), including the high cost of Internet connectivity (eLearning Industry, 2016; Chawinga, 2017; and Chibambo, 2016) are very common in modern education system. There is a constant networking challenge, disrupting the e-learning programmes, particularly in a country like Nigeria, where the electricity supply is very erratic or unreliable, thereby affecting or limiting the effectiveness of e-learning programmes. In most of the developing countries, there is all indication that there is lack of internet availability/affordability, relevance, and readiness.
7. There is an extremely high cost of technological devices or infrastructure (Chipeta et al., 2018; Kainja, 2018; 2016, & ELearning, 2016). Internet cost remains high for many users (Freedom House, 2017 and Zozie & Chawinga, 2018). This is yet another problem confronting the effective implementation of modern learning methods in developing countries.
8. Letseka et al (2018), Queiros and de Villiers (2016) also noticed a low level of computer/internet access at teachers and students' homes. Furthermore, Chibambo (2016) observed that owning a computer is a dream for many learners in many developing countries of the world.
9. Almaiah et al (2020) and Al-Azawei, Parslow & Lundqvist (2016) noticed that several studies revealed the problem of lack of low-income support in higher education institutions and in both managerial and technical support from governments in developing countries on ICT and e-learning development and implementation.
10. As part of the modern learning problems, according to Barteit, Guzek, Jahn, Barnighausen, Jorge, and Neuhann, (2020), is a very poor implementation of e-learning systems in developing countries beyond the pilot phase, mainly due to inadequate training of stakeholders, poor technological support, unmet expectations and inadequate allotment of financial resources.

11. Brown (2017) noted that one of the major drawbacks to distance learning is overdependence on technology. This is because if any software or hardware malfunctions, the class session will come to a standstill.
12. Among the problems of e-learning is inequalities in accessing technology or learning computers.
13. E-learning beginners lack major technological skills. As a result, average users of electronic technology for learning do not use supplementary e-learning instructional materials beyond those prescribed by lecturers due to lack of searching skills (Zozie & Chawinga, 2018). In affirmation, Deyrup and Bloom (2013) state that students lack information literacy skills and technical know-how to search, retrieve, and evaluate online information efficiently. In the same manner, Tarus et al (2015) warned that poor support in technology increases fear towards information and communication technologies, creates resistance to change and loss of interest and commitment to use e-learning.
14. Over time, both teachers and students may experience various negative effects of e-learning program, such as sight problems (due to long periods in front of the screen), back pains, and they also may feel the lack of activities in open spaces a options in the traditional one (Nazarlou, 2013). Currently, particularly in developing nations of the world, job markets are usually very skeptical about online degrees. Most of the online degrees are not recognized by private companies and even government establishments. Employers of labour prefer a degree from the conventional schools to electronic programmes (Nagrle, 2013).
15. Researched topics in the field of e-learning and/or face-to-face learning have been the students' attitudes and emotional states. Some studies describe students as being less satisfied with e-learning and prefer classic face-to-face courses (Tratnik, Urh, Jereb, 2019, Tago, 2012, and Alsaaty, Carter, Abrahams & Alshameri, 2016).
16. The students accustomed to face-to-face learning and who subsequently enrolled in an online platform initially develop high levels of negative emotions, such as fear, anger, or helplessness on the use of new technologies (Butz, Stupnisky & Pekrun, 2015).
17. E-learning is dependent on technology, the Internet, and various devices that not all potential beneficiaries can access or afford on the onset of the e-learning programmes (Sadeghi, 2019).
18. It will be difficult to identify the place of extra-curricular activities in online learning as practiced on-campus classes.
19. Studies show that new or beginner students encounter difficulties at the beginning of the programme due to lack of technology usage (Alsaaty, 2016).
20. The quality of learning is strongly dependent on both the teachers' level of digital training and their teaching style (Gherhes, Simon & Para, 2021).
21. In a research conducted by Alsaaty, Carter, Abrahams, Alshameri (2016) pointed out that a large percentage of students in the sample analyzed in their study assimilated information more from face-to-face learning than from e-learning.
22. Social Interaction is not encouraged at all; hence, learners are seriously isolated from each other. The social interaction obtained from Whatsapp, Telegram, Facebook, Twitter, and so on cannot be equated with physical social interaction that comes with attending a traditional classroom. Brown (2017) further stressed that learning in a brick-and-mortar institution presents students with the opportunity to meet and interact with people from different locations on a personal level than what obtains in online instruction.
23. Students' experience of quality learning is not only related to the teachers' skills and abilities to capture attention during the e-learning process, but also to their own training, characteristics, and digital skills (Haznedar, Ö.; Baran, B.; Eğitim Fakültesi Öğrencileri için e-Öğrenmeye Yönelik Genel bir Tutum Olcegi Gelistirme Calismasi. Eğitim Teknolojisi Kuram ve Uygulama (2012).
24. Physical space should be able to foster interpersonal relationships, thus encouraging didactic communication (Lowenthal & Snelson, 2017). Therefore, social distance is practiced in electronic learning.
25. Some studies revealed that e-learning does not have the same impact as face-to-face learning (Galy, Downey & Johnson). It seems that online students may lose their focus and miss deadlines for different tasks.
26. Obviously, e-learning uses different platforms, such as Zoom, Webex, or Google Meet; these types of interactions are limited and produce different forms of alienation.

27. There is the risk of enrolling in an online programme of a university that is not accredited by any state agency.
28. Several studies, as reported by Al-Araibi, Mahrin & Yusoff (2019), Aung & Khaing (2016), Moakofhi, Leteane, Phiri, Pholele & Sebalatlheng (2017) and Naveed et al (2017c), revealed that that lack of computer skills, internet and e-learning illiteracy among students is prevalent.
29. It seems that some communities of e-learning students develop feelings of belongingness and connections with other colleagues, which could gradually become a resource for knowledge and for the development of various fields of study (Akcaoglu & Lee, 2016). Thus, despite the fact that the presence of students on online platforms can be quite difficult to perceive, the sense of belonging of the communities studying in online education is an important factor in the learning process (Joksimovic, Gasevic, Kovanovic, Riecke & Hatala, 2015).
30. It has been observed that both teachers and students initially felt emotions, such as anxiety or even panic when they had to use online platforms. Sari and Nayir (2020) revealed that the people involved in the teaching process, who were not prepared with various digital skills before the onset of the COVID-19 pandemic but had to move their activities online, had difficulty creating and developing the teaching/learning process.
31. Despite the studies pointing out the numerous benefits of the “rediscovered” e-learning (Nycz, M. & Cohen, Akcaoglu, 2020, Lee, 2016 and Almarabeh, 2014) several studies (Deshmukh, 2020, Miller, 2020 & Beaunoyer, 2020) show that there are many disadvantages to this form of education.
32. Babatola (2021), Kayange (2019), Nwogu and Oguejiofor (2014), Mwakyusa and Mwakikagile (2016), and Chawinga (2017) have identified some factors hampering the smooth running of education and e-learning in the Nigerian and other less advanced country’s educational sector; these limitations and setbacks, include the curriculum, which is not adequately prepared, the lack of adequate electricity, the unprofessionalism of the staff and other factors.
33. There is a lack of policy regulation for e-learning (Kayange, 2019 & Gama et al, 2022). Most countries, particularly those of the developing world, have no formal regulation for e-learning education in higher educational institutions. This has been the case of Malawi as reported by (Kayange, 2019). As a confirmation, Mwakyusa and Mwakikagile (2016), Zozie and Chawinga (2018), and Ansong et al. (2018) have identified lack of an e-learning policy as one of the factors posing difficulties in implementing e-learning.
34. Lots of opportunities are usually missed by online students on the grounds that they won't meet other learners on-campus, who share the same passion for the field they are studying, especially getting to be part of many conferences, seminars and workshops where guest speakers are invited, or introduce themselves to teachers of different fields. Those meetings, no matter how short in time, will yield many tight friendship realtions and job offers.
35. A full account of the risks of adopting technology in the classroom has been given by (Spitzer, 2014), and the scholar warns against its potential negative effects on students’ achievements. The scholar warned that much reliance on technology seems to severely affect students’ competencies in three skills that are of uncontested importance to them, namely reading, writing and arithmetic.
36. According to Almaiah & Alamri (2018); Mwakyusa and Mwalyagile (2016); Tarhini, Masa’deh, Al-Busaidi, Mohammed & Maqableh (2017), some authors noted that the practice of e-learning systems in developing countries are still at the infancy stage whose status is not appealing.
37. Poor technological infrastructure and resources have been identified as one of the problems of modern mode of instruction in underdeveloped worlds, especially in Nigeria. For instance, in a country like Malawi, reports have it that it has a very poor and substandard technological infrastructures like telecommunications, and computers (Al-Araibi et al., 2019; Al-Azawei et al., 2016; Almaiah and Almulhem, 2018; Almaiah & Alyoussef, 2019; Al-Araibi et al., 2019; Aung & Khaing, 2016; Barteit et al., 2019; Eltahir, 2019; and Esterhuysen & Scholtz, 2015; Igbokweet et al., 2020) with the lowest levels of technology access in learning organizations in African universities (Kayange, 2019), and Tembo & Mwale, 2019). Sometimes, poor infrastructure may be expressed to include lack of enough servers, laboratories, computers, and the Internet and/or intranet networks (Al-Azawei et al, 2016). Hence, several studies in Malawi emphasized that access to tertiary education remains very



low due to acute shortages of teaching and learning resources.

38. According to Fried (2008), and Wentworth & Middleton (2014), recent studies have shown that technology has 4 negative impact on the process of education as outlined below:
- 1) Deterioration of students' competencies in reading, writing, and arithmetic, which are the basic three skills any student is expected to master;
  - 2) Dehumanization of education in many environments and distortion of the relationship between teachers and students;
  - 3) Isolation of students in a digital and virtual world that distances them from any form of social interaction;
  - 4) Deepening of social inequalities between the haves and the have-nots tht is students who can possess technology and those who cannot.

#### Advantages' of Traditional Mode of Instruction

The traditional mode of education has been with us from ages. Miller (2020) contends that technology can ultimately be a tool, but it cannot replace face-to-face interactions. Numerous advantages have been credited to the traditional mode of instruction; both in the past and in the present dispensation that still make it very relevant. However, the advantages are as discussed below.

1. According to Miller (2020), in face-to-face learning, both teachers and students could use different intonations, facial expressions, body language expressions, and other elements to transmit all kinds of emotions or feedback. Most of these features are not available in the modern system of learning.
2. Regular attendance in classes helps students interact physically with their teachers and their peers.
3. It allows teachers to directly know their students and evaluate their strengths and weaknesses better.
4. Traditional classes are more suitable for young children, teenagers, and young adolescents, who are yet to join the workforce (De, 2018).
5. Traditional learning is said to sharpen students' social skills by interacting with both their teachers and peers in the class (<https://potomac.edu/top-advantages-of-traditional-education/>).
6. On-campus class enables students to have a direct one-on-one face-to-face meeting with their teachers to discuss class issues, such as their performances, a project topic, or clarify any doubt bothering on any of their academic activities.

7. On-campus learning creates significant or lasting relationships with students and teachers. This relationship is enhanced as they constantly communicate with each other as they are involved in group projects/assignments. Furthermore, the bond is strengthened as they are involved in different school activities, such as participating in clubs/associations, sharing or exchanging study notes and gatherings for several activities on campus (<https://potomac.edu/top-advantages-of-traditional-education/>).
8. Regular attendance in classes helps students interact physically with their teachers and their peers.
9. On-campus class enables students to follow a regular schedule, joining the class on time, attend classes and get a routine of their own, which will inevitably improve their physical fitness and mental alertness and also make the students punctual and disciplined throughout their lifetime. It creates a routine that the students have to follow, and in turn, this will bring punctuality and discipline to students in their daily activities (<https://potomac.edu/top-advantages-of-traditional-education/>). When students follow a regular schedule, attend or join class on time, and make it a routine of theirs, which inevitably improves their physical fitness and mental alertness.
10. All subjects can be taught on campus as opposed to online learning. Some courses, such as music, theater arts, nursing/medicine, agriculture, and biology are better taught on-campus. Classes that require laboratories and clinical practices as in medicine, and/or performances as in theater arts can hardly be done without a traditional campus class (<https://potomac.edu/top-advantages-of-traditional-education/>).
11. In a traditional class, learning is generally scheduled. School organizes courses with timetables in a way that all the students can attend at the same time in a class. Attending classes means joining the class on time. In this way, students will get a routine of their own, which will inevitably make the students develop standards or learn habits and carry such habits into adulthood.
12. Traditional learning gives room for extra-curricular activities, such as different clubs/associations, field trips, and other school activities, which can give the students life lessons or experiences that will be beneficial for them throughout lifetime

(<https://potomac.edu/top-advantages-of-traditional-education/>).

13. A face-to-face interaction between students and teachers, or students versus students breeds regular connections and intermercy among participants in the online learning process.
14. There is no networking or electricity supply challenge in the traditional mode of learning.
15. University officials organize courses in a way that all the students can attend them.
16. In a traditional classroom, students can directly share their views and directly clarify their queries with the teacher, thus getting their questions answered right away.

#### Disadvantages' of Traditional Mode of Instruction

The traditional mode of instruction has been with us since ages, and has been applauded for its instructional effectiveness. Despite all these praises, the same instructional technique has been criticized for its inefficiency in meeting the demands of the present learners. Listed below are some of the shortcomings of the traditional method of instruction as declared by some scholars.

1. Harmon (2017) declared that teachers at the elementary level often deliver the course content through lecture (i.e. chalk and talk) method without employing other vigorous teaching methodologies to improve the conceptual understanding of the students in their academia, thereby students take handouts from the whiteboard without getting the main theme of the topic, which eventually promotes cramming among the students.
2. The traditional mode of instruction (lecture method) is predominantly teacher-centered, which gives a prominent role to teachers, whereas the students gain maximum knowledge in a limited time.
3. The traditional mode of instruction is devoid of the conceptual understanding and critical thinking potentials of students are not developed as desired (Ullah & Iqbal, 2020).
4. There is less flexibility but rigidity is noticed in class scheduling.
5. Less cost effective.
6. More travel to and from class irrespective of the distance.
7. Teachers directly monitor students during exams.
8. The lecture is usually passive as students/learners sit and listen and rarely ask questions.
9. Compatible results
10. More face-to-face interaction with students.

11. Physical classroom located at a particular position.
12. Manual evaluation (Jamal & Aldaifallah, 2020 & Gardner, 2017).

## II. SUMMARY

The authors have concisely conceptualized the major terms of the topic; they have also successfully enumerated the merits and the pitfalls of both the traditional (lecture/face-to-face) and the modern (e-learning) instructional strategies for all concerned to take appropriate measures to take decisions to which instructional strategy to take for a particular programme of study. Based on the literature reviewed, and lots of impediments, it has been discovered that the traditional method of teaching and learning, to some extent is no longer relevant in contemporary system of education. Also, scholars have also put forward that even if the modern mode of instruction is fast replacing the conventional mode, there are some of the courses that is better taught with the face-to-face method. Researchers have also observed that as good as the modern instructional technique may appear, its implementation is practiced at its minimal level in Nigeria and most developing nations of the world. These impediments stems from underdeveloped ICTs and poor infrastructure, followed by the lack of e-learning policy, and lack of knowledge to use ICTs among students (Gama et al, 2022).

## III. CONCLUSION

Technologies are fast changing the conventional method of teaching and learning processes on a daily basis as the traditional-based instruction is currently changing from teacher-oriented to student-oriented, and face-face to using projectors and smart boards, yet requiring the presence of the instructor in the classrooms (Gama et al, 2022). The two methods of instruction are good for the development of a child. Each of the modes of teaching-learning has its own set of positive and negative sides. Nonetheless, understanding each merits and demerits will be a better guide for students and bodies/agencies that intend to venture into using each of the modes of instruction. In this regard, Gherhes et al (2021) stated that decoding and understanding them (merits and demerits) will help educational institutions to create strategies for more efficient delivery of educational content to the beneficiaries of this process. Again, an American researcher, as reported by Tago (2012) concluded in his study that students prefer blended courses that combine online activities with face-to-face learning. In the same manner, the study conducted by Alsaaty,

Carter, Abrahams & Alshameri (2016), revealed that a large percentage of students in the sample analyzed in the study assimilated more information from face-to-face learning than from e-learning process. These advantages and disadvantages could be a very good guide to learners on the choice of mode of instruction that fits a particular programme. With these research findings from scholars however, it is possible that the future education or learning may look totally different from an educational point of view, and it will be time to move on to another level of learning, which blended learning that combines face-to-face teaching with online environment, thereby creating a hybrid learning system, which has been extensively studied by various researchers (Gherhes et al, 2021, Ginns & Ellis, 2007, Stein & Graham, 2014, & Graham, 2019). This review literature, as concluded by Sadeghi (2019) can have useful implications for both teachers and learners, as the new generation is familiar with technology completely so they won't be satisfied with traditional methods of learning. In effect, some scholars have predicted that the hybrid could even be the "new normal" (Norberg, Dziuban & Moskal) in the education of the future.

#### Recommendation

This paper discussed the benefits and issues relating to both traditional (lectuur/face-to-face) and modern (e-learning) education from the perspectives and experiences of instructors/teachers and students/learners. Based on the identified benefits and challenges of both modes of instruction in the literature reviewed, the authors recommended the following basic strategies to help governments at different levels, organized bodies, and institutions to improve and successfully implement the e-learning programmes, especially in developing countries of the world (Gama et al, 2022). To effectively use the modern education tools or platforms for instruction in particular, the universities or other government agencies should recruit professionals with high information technology literacy to train digital talents and maintain digital programs (Rafi, Zheng, & Ahmad, 2019). The Nigerian government, as well as all other developing countries should seriously invest more funds for infrastructural resources development and provide and implement appropriate policies that will regulate and support e-learning programmes. Also to be looked into is the issue of electricity supply to generate enough power, internet connectivity, and employ the services of ICT professionals to attend to issues of computer maintenance and Internet connectivity.

Finally, noting that both instructional modes are currently important, a hybrid method of instruction should be employed to tackle some of the courses that are more practical oriented.

#### REFERENCES

- Aboderin, O. S. (2015). Challenges and prospects of e-learning at national open university of Nigeria. *Journal of Education and Learning*, 9(3), Pp. 207-216
- Aguilera-Hermida, A. P. (2020). College students' use and acceptance of emergency online learning due to COVID-19. *Int. J. Educ. Res. Open.*, 1, 100011.
- Akcaoglu, M.; Lee, E. (2016). Increasing social presence in online learning through small group discussions. *Int. Rev. Res. Open Distrib. Learn.*, 17, Pp. 1-17.
- Al-Araibi, A. A., Mahrin, M. N. B., & Yusoff, R. C. (2019). Technological aspect factors of e-learning readiness in higher education institutions: Delphi technique. *Education and Information Technologies*, 24(1), Pp. 567-590. <https://doi.org/10.1007/s10639-018-9780-9>
- Al-Araibi, A. A., Mahrin, M. N. B., & Yusoff, R. C. (2019). Technological aspect factors of e-learning readiness in higher education institutions: Delphi technique. *Education and Information Technologies*, 24(1), Pp. 567-590. Available at <https://doi.org/10.1007/s10639-018-9780-9>
- Al-Azawei, A., Parslow, P., & Lundqvist, K. (2016). Barriers and opportunities of e-learning implementation in Iraq: A case of public universities. *International Review of Research in Open and Distributed Learning*, 17(5). <https://doi.org/10.19173/irrodl.v17i5.2501>.
- Alariqi, A. A., Najafi, M., Abdulrab, M., Murray, C., & Slimanzai, H. (2019). Factors affecting e-learning effectiveness in a higher learning institution in Afghanistan. *ICETC*, Pp. 176-181). Association for Computing Machinery. <https://doi.org/10.1145/3369255.3372275>
- Alhumaid, K. (2019). Four ways technology has negatively changed education. *Journal of Educational and Social Research*, 9(4), Pp. 10-20. (<http://creativecommons.org/licenses/by-nc-nd/3.0/>).
- Almaiah, M. A., & Mulhem, A. A. (2020). Thematic analysis for classifying the main challenges and factors influencing the successful implementation of e-learning system using NVivo. *International Journal of Advanced Trends in Computer Science and Engineering*, 9(1), 142-152. <https://doi.org/10.30534/ijatcse/2020/22912020>

- Almarabeh, T. (2014). Students' perceptions of e-learning at the University of Jordan. *Int. J. Emerg. Technol. Learn. IJET*, 9, Pp. 31-35.
- Alsaaty, F. M., Carter, E., Abrahams, D. & Alshameri, F. (2016). Traditional versus online learning in institutions of higher education: Minority business students' perceptions. *Bus. Manag. Res.*, 5, 31.
- Alqabbani, S., Almuwais, A., Benajiba, N. & Almoayyed, F. (2020). Readiness towards emergency shifting to remote learning during COVID-19 pandemic among university instructors. *E Learn. Digit. Media*.
- Anohina, A. (2005). Analysis of the terminology used in the field of virtual learning. *Educational Technology & Society*, 8(3), Pp. 91-102.
- Ansong, E., Boateng, R., Boateng, S. L., & Anderson, A. B. (2018). The nature of e-learning adoption by stakeholders of a university in Africa. *E-learning and Digital Media*. Pp. 1-18. Retrieved 23 July, 2022 from <file:///C:/Users/Abrahm%20Orijj/Downloads/2042753017731235.pdf>
- Arkorful, V., & Abaidoo, N. (2014). The role of e-learning, the advantages and disadvantages of its adoption in higher education. *International Journal of Education and Research*, 2(12), Pp. 397-410.
- Aung, T. N., & Khaing, S. S. (2016). Challenges of implementing e-learning in developing countries: A review. In T. Zin, J. W. Lin, J. S. Pan, P. Tin, & M. Yokota (Eds.), *Genetic and Evolutionary computing GCE 2015: Advances in intelligent systems and computing (Vol. 388)*. Springer.
- Babatola, J.E.T. The Role of Nigerian University Professional Administrators in a Globally Competitive University Environment. Retrieve 23 July, 2022 from <https://www.academiaedu/333063>
- 84/ROLE\_OF\_NIGERIAN\_UNIVERSITY\_ADMINISTRATORS\_IN\_GLOBALLY\_COMPETITIVE\_UNIVERSITY\_ENVIRONMENT.
- Barteit, S., Jahn, A., Banda, S. S., Barnighausen, T., Bowa, A., Chileshe, G., Neuhann, F. (2019). E-learning for medical education in sub-Saharan Africa and low-resource settings: Viewpoint. *Journal of Medicine and Internet Research*, 21(1). <https://doi.org/10.2196/12449>
- Barteit, S., Guzek, D., Jahn, A., Barnighausen, T., Jorge, M. M., & Neuhann, F. (2020). Evaluation of e-learning for medical education in low and middle-income countries: A systematic review. *Computers & Education*, 145(1), Pp. 1-18. <https://doi.org/10.1016/j.compedu.201>
- Beaunoyer, E., Dupéré, S., Guitton, M. J. (2020). COVID-19 and digital inequalities: Reciprocal impacts and mitigation strategies. *Comput. Hum. Behav.* 111, 106424.
- Bijeesh, N. A. (2017). Advantages and disadvantages of distance learning. Retrieved 27 July, 2022 from <http://www.indiaeducation.net/online-education/articles/advantages-and-disadvantages-of-distancelearning.html>
- Bonwell, C. C., & Eison, J. (1991). *Active learning: Creating excitement in the classroom*. ASHE-ERIC Higher Education Report (No. 1). Washington, DC: The George Washington University School of Education and Human Development.
- Brown, C. (2017). Advantages and disadvantages of distance learning. Retrieved 27 July, 2022 from <https://www.eztalks.com/elearning/advantages-and-disadvantages-of-distance-learning.html>
- Butz, N. T.; Stupnisky, R. H., Pekrun, R. (2015). Students' emotions for achievement and technology use in synchronous hybrid graduate programmes: A control-value approach. *Res. Learn. Technol.*, 23, 1-16.
- Cacheiro-Gonzalez, M. L., Medina-Rivilla, A., Dominguez-Garrido, M. C. & Medina-Dominguez, M. (2019). The learning platform in distance higher education: Student's perceptions. *Turk. Online J. Distance Educ.*, 20, Pp. 71-95.
- Chawinga, W. D., & Zozie, P. (2016). Increasing access to higher education through open and distance learning: Empirical findings from Mzuzu university, Malawi. *The International Review of Research in Open and Distance Learning*, 17(4), Pp. 1-20. <https://doi.org/10.19173/irrodl.v17i4.2409>
- Chawinga, W. D. (2017). Taking social media to a university classroom: Teaching and learning using twitter and blogs. *International Journal of Educational Technology in Higher Education*, 14(3), Pp. 1-19
- Chibambo, M. I. (2016). Scurrying for a successful open and distance learning model in Malawi: Prevalent issues and trends in distance education. *International Refereed Research Journal of Arts, Science & Commerce*, 7(4), Pp. 1-14. <https://doi.org/10.18843/rwjasc/v7i4/01>
- Chipeta, G. T., Chawinga, W. D., Chaura, M. G., Dube, G. A., & Malemia, L. (2018). Information-seeking behavior of first-year undergraduate students at Mzuzu University, Malawi. *Mousaion*, 36(1), Pp. 1-18.
- De, B. (2018). Traditional Learning Vs. Online Learning. Retrieved 13 July, 2022 from <https://elearningindustry.com/traditional-learning-vs-online-learning>

- Deshmukh, S.R. (2020). Social Realities of Higher Education in the Age of Uncertainties. *Smart Moves J. IJELLH*, 8, Pp. 279-289.
- Deyrup, M., & Bloom, B. (Eds.). (2013). *Successful strategies for teaching undergraduate research*. Scarecrow Press Inc.
- Education Responses to Covid-19: Embracing digital learning and online collaboration. Retrieved 16 June, 2022 from available online: [https://read.oecd-ilibrary.org/view/?ref=120\\_120544-8ksud7oaj2&title=Education\\_responses\\_to\\_Covid19\\_Embracing\\_digital\\_learning\\_and\\_online\\_collaboration](https://read.oecd-ilibrary.org/view/?ref=120_120544-8ksud7oaj2&title=Education_responses_to_Covid19_Embracing_digital_learning_and_online_collaboration)
- ELearning Industry (2016). 3 key challenges of implementing eLearning in Africa. Retrieved 28 June, 2020, from <https://elearningindustry.com/3-keychallenges-implementing-elearning-in-africa>
- Eltahir, M. E. (2019). E-learning in developing countries: Is it a panacea, a case study of Sudan. *IEEE Access*, 7(1), Pp. 97784-97792.
- Esterhuyse, M., & Scholtz, B. (2015). Barriers to e-learning in a developing country: An explorative study. *Proceedings of the 9th IDIA conference*. IDIA.
- Face to Face Learning (2022). Retrieved 30 May, 2022 from <https://tophat.com/glossary/f/face-to-face-learning/?fbclid=IwAR2qkc6UWW3AZW7MeYmBRIVOV4zcO5sfB5XSizz4Y1yASi86xTyCctQNot0>
- Freedom House (2017). *Internet Freedom Scores. HIPSSA Project Implementation Strategy (ITU-EC support for HIPSSA)*.
- Fried, C. B. (2008). In-class laptop use and its effects on student learning. *Computers & Education*, 50(3), 906-914.
- Galy, E., Downey, C. & Johnson, J. (2011). The effect of using e-learning tools in online and campus-based classrooms on student performance. *J. Inf. Technol. Educ.*, 10, Pp. 209-230.
- Gama, L. C., Chipeta, G. T. & Chawinga, C. C. (2022). Electronic learning benefits and Challenges in Malawi's higher education: A literature review. *Education and Information Technologies*. <https://doi.org/10.1007/s10639-022-11060-1>
- Gardner, M. D. (2017). Online vs. traditional education. Retrieved 27 July, 2022 from <https://owlcation.com/academia/Online-Education-vs-Traditional-Education>
- Gherhes, V., Stoian, C. E., Farcasiu, M. A. & Stanici, M. (2021). E-learning vs. face-to-face learning: Analyzing students' preferences and behaviors. *Sustainability*, 13, 4381. Available at <https://doi.org/10.3390/su13084381>
- Gherhes, V.S., Imon, S., Para, I. (2021). Analyzing Students' Reasons for Keeping Their Webcams on or off during Online Classes. *Sustainability*, 13, P. 3203.
- Gianns, P. & Ellis, R. (2007). *Quality in blended learning: Exploring the relations between on-line and face-to-face teaching and learning*. *Internet Higher Educ.*, Pp. 10, 53-64.
- Graham, C. R. (2019). Current research in blended learning. In *Handbook of Distance Education*, 4th ed.; Moore, M.G., Diehl, W.C., Eds.; Routledge: New York, NY, pp. 173- 188.
- Hairon, S., & Chai, C. (2017). *The learning revolution: From pedagogues to designers of learning*. *Learning: Research and Practice*, 3(3), 79-84.
- Hargittai, E. (2003). *The digital divide and what to do about it*. This is a pre-print version of the book chapter to appear in the "New Economy Handbook" edited by Derek C. Jones. San Diego, CA: Academic Press.
- Harmon, L. (2017). *How elementary pre-service teachers acquire pedagogical language knowledge for supporting English learners' academic language development (Doctoral dissertation, University of California, Santa Barbara)*.
- Haznedar, Ö.; Baran, B.; Eğitim Fakültesi Öğrencileri için e-Öğrenmeye Yönelik Genel bir Tutum Ölçeği Geliştirme Çalışması. *Eğitim Teknolojisi Kuram ve Uygulama* (2012). Development of a general attitude scale towards e-learning for faculty of education students. Retrieved 27 July, 2022 from <https://dergipark.org.tr/tr/download/article-file/71817>
- Hodges, C., Moore, S., Lockee, B., Trust, T. & Bond, A. (2021). The difference between emergency remote teaching and online learning. 2020. Retrieved 18 July, 2022 from <https://er.educause.edu/articles/2020/3/the-difference-between-emergency-remote-teaching-and-online-learning>
- Huang, R., Tlili, A., Yang, J., Chang, T. W., Wang, H., Zhuang, R. & Liu, D. (2020). *Handbook on facilitating flexible learning educational disruption: The Chinese experience in maintaining undisturbed learning in covid-19 outbreak*; Smart Learning Institute of Beijing Normal University: Beijing, China.
- Hubackova, S. (2015). History and perspective of e-learning. *Procedia - Social and Behavioral Sciences*, 191(June), Pp. 1187-1190. <https://doi.org/10.1016/j.sbspro.2015.04.594>
- Horton, W. K. (1999). *Designing Web-based training: how to teach anyone anything anywhere anytime*, New York: Wiley.

- Ionescu, C. A.; Paschia, L.; Gudanesu Nicolau, N.L.; Stanescu, S.G.; Neacsu Stancescu, V.M.; Coman, M.D.; Uzlau, M.C. (2020). Sustainability Analysis of the E-Learning Education System during Pandemic Period—COVID-19 in Romania. *Sustainability*, 12, 9030.
- Islam, N., Beer, M., & Slack, F. (2015). E-learning challenges faced by academics in higher education: A literature review. *Journal of Education and Training Studies*, Pp. 102-112. <https://doi.org/10.11114/jets.v3i5.947>
- Jamal, A. & Aldaifallah, H. M. (2020). Traditional Teaching or Virtual Learning: Better Option. *International Journal of Psychosocial Rehabilitation*, 24 (6), Pp. 1475-7192.
- Joksimovic, S., Gasevic, D., Kovanovic, V., Riecke, B. E., Hatala, M. (2015). Social presence in online discussions as a process predictor of academic performance. *J. Comp. Assis. Learn.*, 31, Pp. 638-654.
- Jolliffe, A. (2001). *The online learning handbook: developing and using Web-based learning*, London: Kogan Page
- Kainja, J. (2018). Malawi on the internet: It's getting worse. *The Nation Newspaper*.
- Kayange, A. K. (2019). E-learning encounters in Malawi higher education institutions. *International Journal for e-Learning Security (IJeLS)*, 8(1), Pp. 592-603
- Kearsley, G. (2000). *Online education: learning and teaching in cyberspace*, Belmont, Calif.: Wadsworth Thomson Learning.
- Khaniran, R. D. (2018). The effectiveness and potential of e-learning in war zones: An empirical comparison of face-to-face and online education in Saudi Arabia. *IEEE Access*, 6(1), 6783–6794.
- Kyari, S. S., Adiuku-Brown, M. E., Abechi, H. P., & Adekun, R. T. (2018). E-learning in tertiary education in Nigeria: Where do we stand? *International Journal of Education and Evaluation*, 4(9), Pp. 1–10.
- Lawn, S., Zhi, X., & Morello, A. (2017). An integrative review of e-learning in the delivery of self management support training for health professionals. *BMC Medical Education*, 17, 183.
- Letseka, M., Letseka, M. M., & Pitsoe, V. (2018). The challenges of e-learning in South Africa. *Trends in E-learning*, Pp. 121-138. <https://doi.org/10.5772/intechopen.74843>
- Lowenthal, P. R.; Snelson, C. (2017). In search of a better understanding of social presence: An investigation into how researchers define social presence. *Distance Educ.* 2017, 38, Pp. 141–159.
- Mangal, S. K. and Mangal, U. (2019). *Essentials of educational technology*. New Delhi: PHI Learning Private LTD.
- Miller, E. M. (2020). The COVID-19 Pandemic crisis: The loss and trauma event of our time. *J. Loss Trauma*, 25, Pp. 560–572.
- Moakofhi, M., Leteane, O., Phiri, T., Pholele, T., & Sebalatheng, P. (2017). Challenges of Introducing e-learning at Botswana University of Agriculture and Natural Resources: Lecturers' perspective. *International Journal of Education and Development using Information and Communication Technology, (IJEDICT)*, 13(2), Pp. 4-20.
- Mohammed, A. O.; Khidhir, B. A., Nazeer, A., Vijayan, V. J. (2020). Emergency remote teaching during Coronavirus pandemic: The current trend and future directive at Middle East college Oman. *Innov. Infrastruct. Solut.*, 5, 72.
- Murphy, M. P. A. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy. *Contemp. Secur. Policy*, 41, Pp. 492-505.
- Mwakyusa, W. P., & Mwakikagile, N. V. (2016). Impediments of e-learning adoption in higher learning institutions of Tanzania: An empirical review. *Journal of Education and Practice*, 7(30), Pp. 152-160
- Mzuzu University. (2014). *Mzuzu university prospectus*. Mzuzu University. Chawinga, W. D. (2017). Taking social media to a university classroom: Teaching and learning using twitter and blogs. *International Journal of Educational Technology in Higher Education*, 14(3), Pp. 1–19.
- Naresh, B., & Reddy, B. S. (2015). Challenges and opportunity of e-learning in developed and developing countries - a review. *International Journal of Emerging Research in Management & Technology*, 4(6), Pp. 259–262
- Naveed, Q. N., Muhammad, A., Sanober, S., Qureshi, M. R., & Shah, A. (2017a). A mixed method study for investigating critical success factors (CSFs) of e-learning in Saudi Arabian universities. *International Journal of Advanced Computer Science and Applications*, 8(5), Pp. 171-178.
- Nazarlou, M. M. (2013). Research on negative effects on e-learning. *Int. J. Mob. Netw. Commun. Telemat.*, 3, Pp. 11-16.
- Norberg, A., Dziuban & Moska (2011). Time-Based Blended Learning Model. *Horizon*, 19, Pp. 207–216.
- Nwogu, U. F. (2014). Oguejiofor, C.S. Professional competencies of secretaries for managing new office technologies in Nigeria. *Niger. J. Bus. Educ.* 2014, Pp.1, 114–120.

- Nycz, M. & Cohen, E. B. (2007). The basics for understanding e-learning. In Buzzetto-More, N.A. (2007). *Principles of Effective Online Teaching: Informing Science Press: Santa Rosa, CA, USA, 2007, Pp. 1-17.*
- Okeke-James, Igbokwe, I. C., N. J., Anyanwu, A. N., & Eli-Chukwu, N. C. (2020). Managing the challenges to the effective utilization of e-learning as a response in COVID-19 Nigeria. *International Studies in Educational Administration, 48(2), Pp. 28-34.*
- Oye, N. & Iahad, A. (2012). The Impact of E-Learning on Students' Performance in Tertiary Institution. *Int. J. Comput. Netw.* Available online: <https://www.semanticscholar.org/paper/The-impact-of-e-learning-on-students-performance-in-Oye-Iahad/3e20c2679208f216f20fd1f4eee4664c4df3af9f>
- Picciano, A. G. (2001). *Distance learning: making connections across virtual space and time*, Upper Saddle River, N. J.: Merrill.
- Porter, L. R. (1997). *Creating the virtual classroom: distance learning with the Internet*, New York: J. Wiley & Sons.
- Rafi, M., Zheng, J.M., & Ahmad, K. (2019). Technology integration for students' information and digital literacy education in academic libraries. *Information Discovery and Delivery, 47(4), Pp. 203-217. DOI:10.1108/IDD-07-2019-0049.*
- Ryan, S., Scott, B., Freeman, H., & Patel, D. (2000). *The virtual university: the Internet and resource-based learning*, London: Kogan Page.
- Sadeghi, M. (2019). A shift from classroom to distance learning: Advantages and limitations. *International Journal of Research in English Education, 4(1), Pp. 80-88.*
- Sari, T., Nayir, F. (2020). Challenges in distance education during the (Covid-19) pandemic period. *Qual. Res. Educ., 9, Pp. 328-360.*
- Shim, T. E., Lee, S. Y. (2020). College students' experience of emergency remote teaching due to COVID-19. *Child. Youth Serv. Rev., 119, 105578.* [PubMed]
- Siemens, G., Gasević, D., & Dawson, S. (2015a). Preparing for the digital university: A review of future technology infrastructures for learning. In G. Siemens, D. Gas ević, & S. Dawson (Eds.), *Preparing for the digital university: A review of the history and current state of distance, blended, and online learning* (pp. 199–230). Retrieved 23 July, 2022 from [http:// linkresearchlab.org/PreparingDigitalUniversity.Pdf](http://linkresearchlab.org/PreparingDigitalUniversity.Pdf).
- Sofiadin, A. B. (2014). Sustainable development, e-learning and web 3.0. *Journal of Information, Communication and Ethics in Society, 12(3), Pp. 17-176.* <https://doi.org/10.1108/JICES-03-2014-0018>
- Spitzer, M. (2014). Information technology in education: Risks and side effects. *Trends in Neuroscience and Education, 3(3-4), Pp. 81-85.*
- Stern, B. S. (2004). A comparison of online and face-to-face instruction in an undergraduate Foundations of American Education Course. *Contemp. Issues Technol. Teach. Educ. CITE J., 4, P. 196-213.*
- Stein, J.; Graham, C. R. (2014). *Essentials for blended learning—A standards-based guide*, 1st ed.; Routledge: New York, NY, USA.
- Sucuoglu, E. & Andrew, A. U. (2022). Administrators and students on e-learning: the benefits and impacts of proper implementation in Nigeria. *Electronics, 11, 1650.* <https://doi.org/10.3390/electronics11101650>
- Tagoe, M. (2012). Students' perceptions on incorporating e-learning into teaching and learning at the university of Ghana. *Int. J. Educ. Dev. Using Inf. Commun. Technol. 8, Pp. 91–103.*
- Tarhini, A., Masa'deh, R. E., Al-Busaidi, K. A., Mohammed, A. B., & Maqableh, M. (2017). Factors influencing students' adoption of e-learning: A structural equation modeling approach. *Journal of International Education in Business, 10(2), Pp. 164-182.*
- Tarus, J. K., & Gichoya, D. (2015). E-learning in Kenya universities: Preconditions for successful implementation. *The Electronic Journal of Information Systems in Developing Countries (EJISDC), 66(4), Pp. 1-14.*
- Tembo, K. A., & Mwale, C. G. (2019). Expanding access to higher education in public universities through open and distance learning (ODL) in Malawi: Quality issues. *International Journal of Engineering Science and Management (IJESM), 1(3), Pp. 88–96.*
- The pandemic education system is under unprecedented stress and is facing real risks ([https://read.oecd-ilibrary.org/view/?ref=120\\_120544-8ksud7oaj2&title=Education\\_responses\\_to\\_Covid19\\_Embracing\\_digital\\_learning\\_and\\_online\\_collaboration](https://read.oecd-ilibrary.org/view/?ref=120_120544-8ksud7oaj2&title=Education_responses_to_Covid19_Embracing_digital_learning_and_online_collaboration)).
- Tratnik, A.; Urh, M.; Jereb, E. (2019). Student satisfaction with an online and a face-to-face Business English course in a higher education context. *Innov. Educ. Teach. Intern., 56, Pp. 36-45.*
- Turban, E., King, D., Lee, J. K., Liang, T. P., Turban, D. C. (2015). Innovative ec systems: From e-government to e-learning, collaborative commerce, and c2c commerce. In E. Turban, D. King, J. K. Lee, T. P. Liang, & D. Turban (Eds.), *Electronic commerce: A managerial and social*

- networks perspective (8th ed.), Pp 209-254. Springer International Publishing. [https://doi.org/10.1007/978-3-319-10091-3\\_5](https://doi.org/10.1007/978-3-319-10091-3_5)
- Tustin, R. (2015). Bridging the digital divide in education. Retrieved 14 July, 2022 from <https://study.com/academy/lesson/bridging-the-digital-divide-in-education.html>
- Ullah, O., & Iqbal, M. (2020). Comparison of Impact of Traditional and Modern Teaching Methods on Students' Performance at Elementary School Level. *Global Regional Review*, V(I), 386-395. doi:10.31703/grr.2020(V-I).42. **URL:** [http://dx.doi.org/10.31703/grr.2020\(V-I\).42](http://dx.doi.org/10.31703/grr.2020(V-I).42)
- Vankaiah, (2007). *Educational Technology*. New Delhi: APH Publishing.
- Wentworth, D., & Middleton, J. (2014). Technology use and academic performance. *Computers & Education*, 78, Pp. 306-311.
- Xu Q. (2020). Planning for lockdown and how to emerge out of it. *University World News*. Retrieved 19 July, 2022 from April. Available at <https://www.universityworldnews.com/post.php?story=20200422155817600>
- Yu, Z. (n.d.). Benefits and challenges of e-learning over. Available at DOI: <https://doi.org/10.21203/rs.3.rs-493985/v1>
- Zozie, P. A., & Chawinga, W. D. (2018). Mapping an open digital university in Malawi: Implications for Africa. *Research in Comparative & International Education*, 13(1), Pp. 211-226. <https://doi.org/10.1177/1745499918761952>